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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/058,284	01/30/2002	Hifumi Nagai	1823-0115P	2644
2292	7590	06/03/2004	EXAMINER	
BIRCH STEWART KOLASCH & BIRCH			IP, SIKYIN	
PO BOX 747			ART UNIT	PAPER NUMBER
FALLS CHURCH, VA 22040-0747			1742	

DATE MAILED: 06/03/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

C.F

Office Action Summary	Application No.	Applicant(s)	
	10/058,284	NAGAI ET AL.	
	Examiner	Art Unit	
	Sikyln Ip	1742	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 08 March 2004.
 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-8 is/are pending in the application.
 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
 5) ☐ Claim(s) _____ is/are allowed.
 6) ☒ Claim(s) 1-8 is/are rejected.
 7) ☐ Claim(s) _____ is/are objected to.
 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) ☐ All b) ☐ Some * c) ☐ None of:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
 * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Double Patenting

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.3218 may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Claims 1-8 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-8 of copending Application No. 09/931,406; claims 1-3 and 6-7 of copending Application No. 10/193,576; and claims 1-2 and 5-8 of copending Application No. 10/189,043. Although

the conflicting claims are not identical, they are not patentably distinct from each other because the instant claimed foil compositions and properties are substantially identical.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

Claim Rejections - 35 USC § 103

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(f) or (g) prior art under 35 U.S.C. 103(a).

Claims 1-8 are rejected under 35 U.S.C. § 103 as being unpatentable over USP 5681662 to Chen et al, JP 10324936, JP 11264040, and USP 6093499 to Tomioka.

Claims 1-4 are rejected under 35 U.S.C. § 103 as being unpatentable over USP 6602362 to Tomioka.

Chen disclose(s) the features including the claimed Cu foil compositions (col. 3, lines 10-31) and peel strength (Figure 7) except for the tensile strength, electrical conductivity, and surface roughness.

JP 10324936 (abstract and Tables 1 and 2), JP 11264040 (paragraph [0008] and Table 1), Tomioka '499 (abstract and Table 2), Tomioka '362 (col. 5, lines 6-55 and Table 2), disclose(s) the features including the claimed Cu foil compositions, tensile strength and electrical conductivity except for peel strength and surface roughness.

However, as is evinced by Chen that the claimed peel strength is conventional for Cu foil for circuit board. JP 10324936, JP 11264040, and Tomioka have shown that the claimed tensile strength and electrical conductivity are also conventional and/or required for the foil for circuit board. Therefore, the claimed properties are inherently possessed by the Cu foils of cited references. Since the cited references silent about the roughening plating which suggest the foil surface of cited references is smooth. Thus, smooth foil surface has met the claimed roughness limitation (2 μ m or less). An obviousness rejection based on similarity in chemical structure and function entails the motivation of one skilled in the art to make a claimed compound, in the expectation that compounds similar in structure will have similar properties. In re Gyurik, 596 F.2d 1012, 1018, 201 USPQ 552, 557 (CCPA 1979); See In re May, 574 F.2d 1082, 1094, 197 USPQ 601, 611 (CCPA 1978) and In re Hoch, 57 CCPA 1292, 1296, 428 F.2d 1341, 1344, 166 USPQ 406, 409 (1970). Because of the close structural similarity between the claimed compounds at issue here and the compounds of cited reference and because those prior art compounds possess claimed activity, it is concluded that the required motivation is present here. See In re Wood, 582 F.2d 638, 641, 199 USPQ 137, 139 (CCPA 1978). Therefore, the subject matter as a whole would have been obvious to one having ordinary skill in the art at the time the invention was made to

have selected the overlapping portion of the subject matter disclosed by the reference. Overlapping ranges have been held to be a prima facie case of obviousness. See *In re Malagari*, 499 F.2d 1297, 1303, 182 USPQ 549, 553 (CCPA 1974).

Response to Arguments

Applicant's arguments filed March 8, 2004 have been fully considered but they are not persuasive.

Applicants' remarks in paragraph bridging pages 9-10 of instant remarks is noted. The instant claims are rejected double patent by each of three different copending applications (09/931,406; 10/193,576; and 10/189,043) independently.

Applicants' argument as set forth in paragraph bridging pages 9-10 of instant remarks is noted. But, the instant claimed surface roughness "2 μ m or less" reads on a smooth surface, which does not require roughening plating process as in copending application '576 or artificial roughening as in copending application '043.

Applicants' unexpected result statement as set forth in first full paragraph in page 12 of instant remarks is noted. However, unexpected results have not been shown by the Tables in the instant specification because which fail to compare the claimed subject matter with the closest prior art. *In re Burckel*, 201 USPQ 67, *In re Baxter Travenol Labs.*, 952 F.2d 388, 392, 21 USPQ2d 1281, 1285 (Fed. Cir. 1991), and *In re De Blauwe*, 736 F.2d 699, 705, 222 USPQ 191, 196 (Fed. Cir. 1984). Comparison must be done under identical condition except for the novel features of the invention. *In re Brown*, 173 USPQ 685 and *In re Chapman*, 148 USPQ 711. The showing of unexpected results must be occurred over the entire claimed range. *In re Clemens*, 622

F.2d 1029, 206 USPQ 289, 296 (CCPA 1980). The scope of the showing must be commensurate with the scope of the claims. In re Tiffin, 448 F.2d 791, 792 (Fed. Cir. 1971), In re Coleman, 205 USPQ 1172, In re Grasselli, 713 F.2d 731, 743, 218 USPQ 769, 778 (Fed. Cir. 1983), and In re Greenfield, 197 USPQ 227. Nonetheless, the claimed foil properties are disclosed by references of record.

Applicants' argument as set forth from pages 11-14 of instant remarks is noted. But as set forth in the rejection above and in previous office action that since the cited references silent about the roughening plating which suggest the foil surface of cited references is smooth before foil lamination. Thus, smooth foil surface has met the claimed roughness limitation (2 μ m or less).

Applicants' argument as set forth in paragraph bridging pages 14-15 of instant remarks is noted. Applicants' attention is directed to Chen, Figure 7, which discloses peel strength at 90°. The peel strength at 90° is a lot higher than the claimed strength.

Applicants' argument as set forth in first full paragraph in page 15 of the instant remarks is noted. But, alloys of cited references are known for foils used in circuit board.

Applicants' argument as set forth with respect to Tomioka '362 is noted. But as is evinced by Chen Figure 7, the claimed peel strength is merely a required standard for laminated copper foil.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

The above rejection relies on the reference(s) for all the teachings expressed in the text(s) of the references and/or one of ordinary skill in the metallurgical art would have reasonably understood or implied from the text(s) of the reference(s). To emphasize certain aspect(s) of the prior art, only specific portion(s) of the text(s) have been pointed out. Each reference as a whole should be reviewed in responding to the rejection, since other sections of the same reference and/or various combination of the cited references may be relied on in future rejection(s) in view of amendment(s).

All recited limitations in the instant claims have been met by the rejections as set forth above.

Applicant is reminded that when amendment and/or revision is required, applicant should therefore specifically point out the support for any amendments made to the disclosure. See 37 C.F.R. § 1.121.

Examiner Correspondence

Any inquiry concerning this communication or earlier communications from the examiner should be directed to S. Ip whose telephone number is (571) 272-1241. The examiner can normally be reached on Monday to Friday from 5:30 A.M. to 2:00 P.M.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dr. Roy V. King, can be reached on (571)-272-1244.

The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Art Unit: 1742

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



SIKYIN IP
PRIMARY EXAMINER
ART UNIT 1742

S. Ip
May 30, 2004